

**CLAIMS**

1. A method for manufacturing a building element based on plaster, consisting of placing at least plaster and water in a mold (10) in the shape of the element to be obtained, compressing the mixture of plaster and water into the mold and unmolding  
5 the building element, characterized in that it consists of applying to the mixture in the mold a pressure that is at least equal to a threshold value beyond which plaster crystallization is prevented by increasing its solubility in water, then causing rapid crystallization of the plaster by reducing the pressure applied to the mixture.
2. A method according to claim 1, characterized in that the quantity of water in the  
10 mixture is substantially equal to twice the quantity of water necessary for crystallization of the plaster at atmospheric pressure and is 35 to 40 parts by weight of water per 100 parts by weight of plaster when the threshold compression value is about 150 bars.
3. A method according to claim 1 or claim 2, characterized in that it consists of causing  
15 crystallization of the plaster in the mixture by ceasing compression of the mixture.
4. A method according to claim 1, claim 2 or claim 3, characterized in that it consists of causing crystallization of the plaster in the mixture by unmolding the element resulting from compression of the mixture into the mold (10).
5. A method according to one of the preceding claims, characterized in that it consists of  
20 crystallizing the plaster in the element outside the mold (10).
6. A method according to one of the preceding claims, characterized in that it consists of initially compressing the mixture in the mold (10) to reduce voids in the mixture to a minimum value or close to a minimum, then increasing the pressure applied to the mixture to at least said threshold value.
- 25 7. A method according to one of the preceding claims, characterized in that the mixture in the mold comprises a filler, for example a granular filler.

8. A method according to claim 7, characterized in that the filler is chemically inert with respect to the plaster.
9. A method according to claim 7, characterized in that the filler is not chemically inert with respect to the plaster.
- 5 10. A method according to one of the preceding claims, characterized in that the mixture in the mold (10) comprises a fluidifier.
11. A method according to claim 10, characterized in that the fluidifier is a deflocculating agent such as melamine.
- 10 12. A method according to one of the preceding claims, characterized in that said threshold value for the pressure increases with temperature and is in the range from about 100 to 150 bars when the temperature passes from about 15°C to 20°C.
13. A method according to one of the preceding claims, characterized in that application to the mixture in the mold of a pressure at least equal to that of said limiting value is accomplished by driving at least one element with a reduced cross section with  
15 respect to the corresponding cross section of the mold cavity into the mixture in the mold, said element comprising, for example, a cylindrical rod guided in translation and sealingly mounted in an orifice of one wall of the mold and to which an axial thrust is applied to drive it into the mixture.